

BARSHAY, G.S.; BULAKH, G.I.; GUSMAN, M.T.

Use of jet bits in turbodrilling. Neft.khoz. 39 no.1:8-13 1 Ja  
'61. (MIRA 17:3)

IOANNESYAN, R.A.; GUSMAN, M.T.; TAGIYEV, E.I.

Development of turbine drilling in the U.S.S.R. Neft.  
khoz. 42 no.9/10:107-114 S-O '64. (MIRA 17:12)

GUSMAN, M. I.; AGAYEV, A. J.

Efficiency characteristics of a turbopump. Neft. khoz. 43  
no. 5:11-16 May '65. (MIRA 18:6)

GUSMAN, M.T.; NIKITIN, G.M.; SOBKINA, I.V.

Some results in operations with multisectional turbodrills. Trudy  
VNIIBT no.14:140-150 '65. (MIRA 18:5)

ACC NR:

AP7002603

(A, N)

SOURCE CODE: UR/0413/66/000/023/0110/0110

INVENTORS: Agayev, A. I.; Kol'chenko, A. V.; Malkin, B. D.; Kuznetsova, I. I.;  
Nikitin, G. M.; Gusman, M. T.

ORG: none

TITLE: A stepped rolling axle support. Class 47, No. 189254

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 110

TOPIC TAGS: antifriction bearing, ball bearing, bearing race

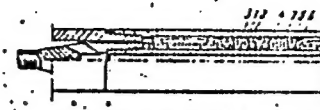
ABSTRACT: This Author Certificate presents a stepped rolling axle support containing thrust roller bearings, spacing collars, and an annular elastic element (see Fig. 1). To eliminate loose axle holes and to increase the efficiency under dynamic loads, the ball bearings of the support are placed in two rows, with the balls running between the outside flanges and the internal flange. The annular elastic element is mounted on each side of each ball bearing at a small distance from a spacing ring. A split bushing is placed between the inner flanges of the corresponding ball bearings.

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UDC: 621.822.3

ACC NR. AP7002603

Fig. 1. 1 - balls; 2 - outside flange;  
3 - inner flange; 4 - annular  
elastic element; 5 - space;  
6 - spacing ring; 7 - split  
bushing



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 05Mar66

Card 2/2

L 01805-67 EWT(m)/T DJ  
ACQ NR: AP6030592 (A/V) SOURCE CODE: UR/0413/66/000/016/0074/0074

INVENTOR: Garzanov, G. Ye.; Petyakina, Ye. I.; Bagryantseva, P. P.;  
Shames, F. Ya.; Ravikovich, A. M.; Boshchevskiy, S. B.; Maloletkov, Ye. K.;  
Selivanchik, Ya. V.; Gusman, M. Ye.; Skvirskiy, P. A.; Aver'yanov, V. A.;  
Uzunkoyan, P. N.; Pisarchik, A. N.; Mikhaylov, Yu. A.; Belogradskiy, A. P.;  
Bayevskiy, F. S.; Fomin, N. I.

ORG: none

TITLE: Method of obtaining a hydraulic lubricant. Class 23, No. 185000.  
[Announced by the Scientific Research Institute for Organization, Mechanization,  
and Technical Assistance to Construction (Nauchno-issledovatel'skiy institut  
organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu)

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966,  
74

TOPIC TAGS: lubricant, lubricant additive, antioxidant additive, polymethacrylate,  
hydraulic lubricant

ABSTRACT: An Author Certificate has been issued for a method of obtaining a  
hydraulic lubricant by means of additives with an oil base. To expand the operat-  
Card 1/2 UDC: 621.892.8:621.226

.L 01805-67

ACC NR: AP6030592

ing temperature range of oil a mixture of commerical oil and diesel-oil residue are taken as the oil base to which a multifunctional additive is added, such as EFO, an antioxidant agent|| such as octadecylamine, and a depressing agent, such as a polymethacrylate. [Translation] [NT]

SUB CODE: 11/ SUBM DATE: 25May65/.

Card 2/2 *fdh*



L 00740-66 EWT(m)/EPT(c)/T BW/DJ

ACCESSION NR: AP5021990

UR/0286/65/000/014/0065/0065  
665.4/.5

AUTHOR: Garzanov, G. Ye.; Vinner, G. G.; Maloletkov, Ye. K.; Bogdanov, Sh. K.;  
Sergiyenko, V. G.; Petyakina, Ye. I.; Selivanchik, Ya. V.; Vertlib, Ya. Ye.;  
Gusman, M. Ye.; Shanna, E. Ye.; Selimov, M. I.; Granat, A. M.; Bulantseva, T. P.;  
Krylova, T. A.

TITLE: A method for producing hydraulic fluid: Class 23, No. 172947

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 65

TOPIC TAGS: hydraulic fluid, petroleum product

ABSTRACT: This Author's Certificate introduces a method for producing hydraulic fluid based on petroleum products. The efficiency of the fluid at low temperatures is improved by using a velosite distillate with a flash point of 115-120°C and a viscosity of less than 2200 centistokes at -40°C.

ASSOCIATION: Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi (Scientific Research Institute for Organization, Mechanization and Technical Assistance)

Card 1/2

L 00740-66

ACCESSION NR: AP5021990

SUBMITTED: 14Aug64

ENCL: 00

SUB CODE: IT

NO REF SOV: 000

OTHER: 000

*SP*  
Card 2/2

1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
PROCESSES AND PROPERTIES																			
<p>Effect of flight on the vitamin metabolism of aviators.  M. Gusman, D. M. Shetlgart, and K. N. Kharadze.  Byull. Ekspil. Biol. Med. 19, No. 6, 37-40(1945).—  Aviators, after a 2-hr. cruising flight at 500 m. altitude,  showed a loss in blood carotene of 14%, a rise of blood  pyruvic acid of 7%, and a decrease in blood ascorbic acid  of 15%. For a second group of aviators, with 1.5-hr.  combat practice at an altitude of 4000 m., the correspond-  ing figures were 30, 36, and 38%. Certain clinical symp-  toms of aviators after flights, as weakness, pain in the  lower extremities, etc., may in part be due to the ex-  haustion of the vitamins in the blood. H. Priestley</p>																			

GUSMAN, S. M., prof.

Blood coagulation in angina pectoris and myocardial infarction.  
Sov. med. 19 no.11:24-26 N. '55. (MIRA 9:1)

1. Iz kafedry vnutrennikh bolezney (zav.-zasluzhennyy deyatel' nauki  
prof. M. Kh. Yagubov) Azerbaydzhanskogo instituta usovershenstvovaniya  
vrachey (dir. M. I. Aliyev).

(BLOOD-COAGULATION, in various diseases,  
angina pectoris & myocardial infarct)

(ANGINA PECTORIS, blood in,  
coagulation)

(MYOCARDIAL-INFARCTION, blood in,  
coagulation)

USSR/Human and Animal Physiology. Circulation

T-5

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65296

Author : Gusman S.M.

Inst : The Azerbaydzhan State Institute for the Advanced Training  
of Physicians.

Title : Arterial Hypertonus in Pregnant Women

Orig Pub : Sr. tr. Azerb. gos. in-ta usoversh. vrachey, 1957, Vyp. 3,  
78-84

Abstract : No abstract

Card : 1/1

USSR/Human and Animal Physiology. Circulation

T-5

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000617620016-2"

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65285

Author : Gusman S.M.

Inst : -

Title : The Physicochemical Blood Clotting Indices in Acute  
Coronary Insufficiency and Hypertensive Disease

Orig Pub : Azerb. tibb zh., 1957, No 7, 19-22 (azerb.); 86-89 (Russian)

Abstract : In 22 patients with acute coronary insufficiency (angina pectoris of infarct), the prothrombin time was considerably shortened, while the prothrombin index increased  $1\frac{1}{2}$  times. In the second and third stages of hypertensive disease the index was slightly increased. In all of the patients the number of thrombocytes in the blood and the duration of bleeding were unchanged. Blood clotting was accelerated in patients with coronary insufficiency, especially in cases of myocardial infarction. The author recommends the use of anticoagulants for this condition.--M.Ya. Mayzelis

Card : 1/1

GUSMAN, S.M.,prof. (Baku)

Activities of the Azerbaijan Society of Theraputists in 1955-1956.

Terap. arkh. 29 no.7:78-80 J1 '57.

(MIRA 11:4)

(AZERBAIJAN--THERAPEUTICS--SOCIETIES)

GUSMAN, S.M., prof., ALEKPEROV, M.A., kand.med.nauk

Artozin therapy in diabetes mellitus. Terap. arkh. 30 no.7:25-37  
Jl '58 (MIRA 11:8)

1. Iz kafedry vnutrennikh bolezney Azerbaydzhanskogo instituta  
usovershenstvovaniya vrachey.

(ANTIDIABETICS, ther. use,  
tolbutamide (Rus))

GUSMAN, S.M., prof., KHALFEN, E.Sh., kand.med.nauk (Baku)

Ballistocardiogram of healthy subjects. Klin.med. 36 no.8:98-105  
Ag '58 (MIRA 11:9)

1. Iz kafedry vnutrennikh bolezney (ispolnyayushchiy obyazannosti  
zav. kafedry - prof. S.M. Gusman) Azerbaydzhanskogo instituta  
usovershenstvovaniya vrachey (dir. M.I. Aliyev).

(BALLISTOCARDIOGRAPHY,  
of healthy subjects (Rus))



ALLAKHVERDIYEV, A.G., dotsent; KULIYEV, A.Kh., dotsent; GUSMAN, S.M.,  
prof., doktor med.nauk, red.; PLATONOV, B., red.; MIRDZHAPAROV, A.,  
tekhn.red.

[Naphthalan and its therapeutic use] Naftalan i ego lechebnoe  
primeneniye. Baku, Azerbaidzhanskoe gos.izd-vo, 1959. 186 p.  
(MIRA 14:2)

(NAPHTALAN--PETROLEUM--THERAPEUTIC USE)

GUSMAN, S.M., prof.; KHALFEN, E.Sh., kand.med.nauk

Clinical significance of a ballistocardiographic study. Azerb.med.  
zhur. no.9:36-40 S '59. (MIRA 13:1)

1. Iz kafedry vnutrennikh bolezney ( i.o.zav. kafedroy - prof. S.M.  
Gusman) Azerbaydzhanskogo gosudarstvennogo instituta usovershenstvo-  
vaniya vrachey (i.o. direktora - dotsent D.B. Mustafayev).  
(BALLISTOCARDIOGRAPHY)

GUSMAN, S.M., prof.; KHALFEN, B.Sh., kand.med.nauk (Baku)

Ballistocardiographic changes in clinically normal subjects following physical effort and after smoking [with summary in English]. Terap. arkh. 31 no.1:46-52 Ja '59. (MIRA 12:2)

1. Iz kafedry terapii Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.

(BALLISTOCARDIOGRAPHY,  
eff. of exercis & smoking in normal subjects (Rus))  
(EXERCISE, eff.  
on ballistocardiography in normal subjects (Rus))  
(SMOKING, effects,  
same)

GUSMAN, S.M., prof.; ALEKPEROV, M.A., kand.med.nauk

Functional state of the kidneys in patients with diabetes mellitus  
treated with artosin. Terap.arkh. no.6:68-72 '61.

(MIRA 15:1)

1. Iz kafedry terapii (zav. - prof. S.M. Gusman) Azerbaydzhanskogo  
gosudarstvennogo instituta usovershenstvovaniya vrachey.  
(ARTOSIN) (DIABETES) (KIDNEYS)

GUSMAN, S. M., ITKIN, A. A. and KARAMOV, K. S.

"Case of Defect in the Aortal Valves of Traumatic Origin" - p. 37

Voyenno Meditsinskiy Zhurnal, No. 10, 1962

GUSMAN, S.M., prof.

Atypical myocardial infarcts and classification of their forms.  
Terap. arkh. 34 no.10:32-36 D'62 (MIRA 17:4)

1. Iz kafedry terapii (zav. - prof. S.M. Gusman) Azerbaydzhan-  
skogo instituta usovershenstvovaniya vrachey.

GUSMAN, S.M., prof.; ALEKPEROV, M.A., kand. med. nauk

Indications for use and the effectiveness of sulfanilamide  
preparations in diabetes mellitus. Sovet. med. 25 no.5:  
13-18 My'63 (MIRA 17:1)

1. Iz kafedry terapii (zav. - prof. S.M. Gusman) Azerbay-  
dzhanskogo instituta usovershenstvovaniya vrachey.

GUSMAN, S.M., prof.

Impressions of the Czechoslovakian Medical Congress. Terap.  
arkh. 35 no.5:109-110 My'63 (MIRA 16:12)



KADYMOV, I.G., MAYEV, A.K., ... .., ZAKHAROV, G.YE., GUSMAN, S.M.,  
prof. TESLER, Ye.Ye.

On the 70th anniversary of the Dzhalalov No. 3 Clinical Hospital.  
Azerb. med. zhur. 41 no.1-84-85 Ja '64. (MIRA 17:12)

1. Glavnyy vrach klinicheskoy bol'nitsy No. 3 Azari Dzhalalov, Baku  
(for Kadymov).

86177

/L.3000

S/140/60/000/005/006/021  
C111/C222

AUTHOR: Gusman, S.Ya.

TITLE: Uniform Approximation<sup>16</sup> of Continuous Functions on Riemannian Surfaces

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1960,  
No. 5, pp. 43 - 51

TEXT: Generalizing a result of S.N. Mergelyan to Riemannian surfaces<sup>16</sup> the author proves the

Theorem 1 : Let the function  $f(P)$  be defined on the closed set  $E$  belonging to a closed Riemannian surface  $R$ . In order that  $f(P)$  is developable into a series in terms of rational functions on  $R$  with a single pole in the point  $Q$  which on  $E$  converges uniformly to  $f(P)$  it is necessary and sufficient that the complement of  $E$  consists of a region containing  $Q$ , and that  $f(P)$  is continuous on  $E$  and analytic in every inner point of  $E$ .

The sufficiency of the conditions follows as a special case from Theorem 2 : If the complement of a closed set  $E$  with respect to the closed Riemannian surface  $R$  consists of  $n$  regions  $G_1, \dots, G_n$  and if  $Q_1 \in G_1, \dots, Q_n \in G_n$  are arbitrary points of these regions then every function  $f(P)$

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Uniform Approximation of Continuous Functions  
on Riemannian Surfaces

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which is continuous on  $E$  and analytic in the interior of  $E$ , is developable into a series in terms of rational functions in  $R$  having poles only in  $Q_1, \dots, Q_n$ , where this series converges uniformly to  $f(P)$  on  $E$ .

From theorem 2 there furthermore follows the :

Theorem 2\* : If the complement of  $E$  with respect to  $R$  consists of the regions  $G_1, \dots, G_n$ , and  $Q_1, \dots, Q_n$  are arbitrary points of these regions then

every  $f(P)$  which is regular in the interior of  $E$  (with an exception of the finitely many points  $P_1, \dots, P_m$ , where it has poles) and continuous on  $E$

(with an exception of the same points  $P_1, \dots, P_m$ ) can be developed into a

series in terms of rational functions on  $R$  having poles only in  $P_1, \dots, P_m$

and  $Q_1, \dots, Q_n$ , where this series converges uniformly to  $f(P)$  on  $E$ .

From theorem 2\* there furthermore follows

Theorem 3 : Let the complement of  $E$  with respect to  $R$  consist of  $G_1, \dots, G_n$ .

Let  $Q_1 \in G_1, \dots, Q_n \in G_n$  be points of the  $G_1, \dots, G_n$ . Let  $dg(P)$  be a

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Uniform Approximation of Continuous Functions  
on Riemannian Surfaces

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C111/C222

differential continuous on  $E$  and analytic in the inner points. Then for every fixed finite covering of  $R$  by cells and for every  $\epsilon > 0$  there exists an Abelian differential  $dh(P)$  on  $R$  having poles only in  $Q_1, \dots, Q_n$  and satisfying the inequation :

$$\max_{P \in E} \left| \frac{dg(P)}{dz} - \frac{dh(P)}{dz} \right| < \epsilon .$$

The present paper was written under the leading of Professor L.I. Volkovyskiy.

There are 2 figures and 9 references : 5 Soviet, 1 Finnish, 2 German and 1 Japanese. X

ASSOCIATION: Permskiy gosudarstvennyy universitet imeni A.M. Gor'kogo  
(Perm' State University imeni A.M. Gor'kiy)

SUBMITTED: September 23, 1959

Card 3/3

68594

16(1)-16.3000

S/020/60/130/05/002/061

AUTHOR: Gusman, S Ia

TITLE: Uniform Approximation of Continuous Functions on Riemannian Surfaces

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 5, pp 963-965 (USSR)

ABSTRACT: Theorem 1: Let the function  $f(P)$  be defined on the closed set  $E$  of the closed Riemannian surface  $R$ . In order that  $f(P)$  can be expanded into a series in terms of functions rational on  $R$  with a single pole in  $Q$ , and that the series converges uniformly on  $E$  to  $f(P)$ , it is necessary that the complement of  $E$  consists of a single domain containing  $Q$ , while  $f(P)$  is continuous on  $E$  and analytic in each interior point of  $E$ . Theorem 2: Let the complement of the closed set  $E$  with respect to the closed Riemannian surface  $R$  consist of the domains  $G_1, G_2, \dots, G_n$ ; let  $Q_1, Q_2, \dots, Q_n$  be arbitrary points of these domains. Then every unique function  $f(P)$ , which is continuous on  $E$  and analytic in the interior points of  $E$ , can be expanded into a series in terms of functions which are rational on  $R$  and possess poles only in the points  $Q_i$ ; the series converges uniformly on  $E$  to  $f(P)$ .

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Riemannian Surfaces

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Theorem 3: As in theorem 2 the complement of E is assumed to consist of  $G_1, \dots, G_n$  with the points  $Q_1, \dots, Q_n$ . Let  $dg(P)$  be a differential which is regular and continuous in every interior point of E, except in the finite set of the points  $P_1, \dots, P_m$ , where it possesses poles. Then to every finite covering of R and to every  $\varepsilon > 0$  there exists an abelian differential  $dh(P)$  on R which possesses poles only in  $P_1$  and  $Q_k$  and which satisfies the inequality

$$\max_{P \in E} \left| \frac{dg(P)}{dz} - \frac{dh(P)}{dz} \right| < \varepsilon$$

Theorem 4 : If the plane measure of the continuum E on R is equal to zero, then every function  $f(P)$  continuous on E can be re-

presented as a series  $\sum_{n=1}^{\infty} R_n(P)$  uniformly convergent on E, where

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$R_n(P)$  are rational functions on  $R$ .

S.N. Mergelyan, M.A. Lavrent'yev and M.V. Keldysh are mentioned;  
the author thanks Professor L.I. Volkovyskiy for the guidance  
of the paper.

There are 3 references, 1 of which is Soviet, 1 German, and  
1 Japanese.

PRESENTED: October 21, 1959, by M.A. Lavrent'yev, Academician

SUBMITTED: October 12, 1959

X

Card 3/3

GUSMAN, S.Ya.; RODIN, Yu.I.

Kernel of a Cauchy type integral on closed Riemann surfaces. Sib.  
mat. zhur. 3 no.4:527-531 J1-Ag '62. (MIRA 15:7)  
(Integrals, Generalized) (Riemann surfaces)



L 3203-66 EWT(d) IJP(c)

ACCESSION NR: AP5015718

UR/0022/64/017/005/0003/0006

16

AUTHOR: Gusman, S. Ya.

13

03

TITLE: Existence of regular solutions to Cauchy-Riemann systems with nonlinear right-hand members

SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 17, no. 5, 1964, 3-6

TOPIC TAGS: Riemannian geometry, analytic function

Abstract: The author develops three theorems on the existence of certain classes of solutions to systems of the type in question.

The system of equations

$$\begin{cases} \frac{\partial u}{\partial x} - \frac{\partial v}{\partial y} = f_1(x, y, u, v) \\ \frac{\partial v}{\partial x} + \frac{\partial u}{\partial y} = f_2(x, y, u, v) \end{cases}$$

is written in the form of a single equation

$$w_z = a(z, w),$$

(1)

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ACCESSION NR: AP5015718

where

$$z = x + iy, \quad w = u + iv, \quad a(z, w) = \frac{1}{2} (f_1(x, y, u, v) + if_2(x, y, u, v)).$$

Equation (1) and its solutions have been thoroughly studied by I. N. VEKUA (Obobshchennyye analiticheskiye funktsii, Fizmatgiz, Moscow, 1959) for the case  $a(z, w) = a(z) + b(z)\bar{w} + c(z)$ , where  $a(z)$ ,  $b(z)$ , and  $c(z)$  belong to  $L_p(\bar{D})$  or  $L_{p, 2}$ ,  $p \geq 2$ . This paper is devoted to the more general case in

which  $a(z, w)$  is discontinuous with respect to  $w$  for any  $z \in \bar{D}$ , where  $\bar{D}$  is the closure of region  $D$ , measurable with any discontinuous  $w(z)$ , and satisfies the inequality

$$|a(z, w)| \leq a(z) (|w| + 1)^{\epsilon} (\ln(|w| + 2))^{\delta},$$

where  $a(z)$  belongs to  $L_p(\bar{D})$  or  $L_{p, 2}$ , if region  $D$  is unbounded,  $p \geq 2$ . If  $D$  is a region of Riemannian surface  $R$ , then  $a(z, w)$  must be a coordinate of the form

$$a(z^*, w) = a(z, w) \frac{dz}{dz^*}.$$

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$a(z)$  in this case varies by the law  $a(z^*) = a(z) \left| \frac{dz}{dz^*} \right|$ .

The function  $w(z)$  is termed a "regular" solution of Equation (1) if it possesses almost everywhere a generalized derivative and if it satisfies Equation (1).

Theorem 1 ( $D$  is the complex plane): With  $\alpha < 1$ , and also with  $\alpha = 1$  and  $\beta < 0$ ,

there exists a regular solution to Equation (1) which assumes a given value  $w_0$  at a given point  $z_0$ . (It should be noted that the conditions of Theorem 1 do not imply the uniqueness of the solution).

Theorem 2 ( $D$  is a bounded flat region or a region on a closed Riemannian surface):

If  $P_1, \dots, P_n$  are points of  $D$ , while  $w_1, \dots, w_n$  are arbitrary complex numbers, then with  $\alpha < 1$  and also with  $\alpha = 1$  and  $\beta < 0$ , there exist single-valued solutions to Equation (1) which assume at every point  $P_k$  the value  $w_k$ ,  $k = 1, \dots, n$ .

Theorem 3 (same assumption for  $D$  as in 2): If the sequence  $\{w_n(z)\}^k$  of regular solutions to Equation (1) converges uniformly in  $D$  toward  $w(z)$  then  $w(z)$  is a regular solution of that equation.

Theorems 2 and 3 hold for an arbitrary open Riemannian surface  $D$ , provided  $a(z)$  has a compact medium. If  $D$  is a closed Riemannian surface, then even the equation

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ACCESSION NR: AP5015718

$$\frac{w}{z} = a(z)$$

has no regular solutions in the general case.

Orig. art. has 9 formulas.

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm' State University)

SUBMITTED: 20Jan64

ENCL: 00

SUB CODE: MA

NO REF SOV: 004

OTHER: 000

JPRS

PC

Card 4/4

L 31554-66 E.T(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6005112

(N)

SOURCE CODE: UR/0316/65/000/005/0074/0076

AUTHOR: Serebryakov, B. R.; Gusman, T. Ya.; Shnulin, A. N.ORG: VNIIOlefin

TITLE: Electrical conductivity of bismuth molybdates

SOURCE: Azerbaydzhanskiy khimicheskly zhurnal, no. 5, 1965, 74-76

TOPIC TAGS: electric conductivity, bismuth compound,  
forbidden zone width, activation energy, catalysis, oxidation,  
dehydrogenation, x ray analysis

molybdate,

ABSTRACT: A study was made of the electrical conductivity of fused and shaped samples of bismuth-molybdenum catalysts used in a number of oxidative processes (oxidation of propylene to acrolein, oxidative dehydrogenation of butylenes to divinyl, oxidative ammonolysis of propylene to acrylonitrile). X-ray analysis established the structure of the samples as  $(\text{Bi}_2\text{O}_3)_x(\text{MoO}_3)_y$ . Their electrical resistance was measured at 290-500C (range in which the catalytic properties are best manifested) with an E6-3 tube teraohmmeter. Particular emphasis was placed on the determination of the activation energy of conduction (i.e., on the determination of the forbidden gap width  $E_p$ ). The  $\text{Bi}_2\text{O}_3$ - $\text{MoO}_3$  catalysts were found to have n-type conductivity. It was established that the activation energy of the oxidation of propylene to acrolein (and oxidative ammonolysis of propylene to acrylonitrile) and the activation energy of the electrical conduction of bismuth molybdates are approximately equal. The forbidden gap width of the  $\text{Bi}_2\text{O}_3$ - $\text{MoO}_3$  system changes only slightly with changing composition and is equal

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L 31554-66

ACC NR: AP6005112

to an average of 0.96 eV. The authors are deeply grateful to K. Mekhtivev, who performed the x-ray structural analysis of the samples. Orig. art. has: 2 figures.

SUB CODE: 07,20/SUBM DATE: 12Nov64 / ORIG REF: 003

Card 2/2 ✓

Gusman, V.S.

EXCERPTA MEDICA Sec.12 Vol.12/4 Ophthalmology April 58

600. THE PATHO-ANATOMICAL CHANGES IN THE EYE IN PULMONARY  
TUBERCULOSIS (Russian text) - Gusman V.S. - SBORN. TRUD.  
AZERBAIJAN. OFTAL. INST. 1956, 1 (131-135)

Eighteen eyes of 9 individuals aged 20-60 yr., who had died from a haematogenous dissemination of tb were studied. Destructive-proliferative changes were discovered in all the eyes; the author considers these changes referable to toxæmia and the changed reactivity of the organism. The findings were revealed by microscopic examination of eye preparations stained by various methods. (S)

ABAYEV, G.N.; GUSMAN, T.Ya.

Determination of the rate of the beginning of fluidization  
of some catalysts. Khim.prom. no.11:796-798 N '62. (MIRA 16:2)  
(Fluidization) (Catalysts)



GUSMAN, Ye.A. (Leningrad)

Practices of a district accident station. Ye.A. Gusman.  
Ortop.travm. i protez 19 no.2:54 Mr-Apr '58 (MIRA 11:5)  
(FIRST AID IN ILLNESS AND INJURY)

L 56475-65 EAT(d) Pg-4 IJP(c)

ACCESSION NR: AP5009399

S/0208/65/005/002/0351/0357

518:517.944/.947

AUTHOR: Gusman, Yu. A. (Leningrad); Oganessian, L. A. (Leningrad)

TITLE: Convergence estimates of finite difference methods for degenerate elliptic equations

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 5, no. 2, 1965, 351-357

TOPIC TAGS: elliptic differential equation, boundary value problem, approximation method

ABSTRACT: Variational methods are applied to the solution of the following two boundary value problems connected with the equation

$$Lu = -\frac{\partial}{\partial x} \left[ p(x, y) \frac{\partial u}{\partial x} \right] - \frac{\partial}{\partial y} \left[ q(x, y) \frac{\partial u}{\partial y} \right] = f(x, y) \quad (1)$$

(1) To find a solution satisfying the condition  $u|_{\Gamma} = 0$

Card 1/3

L 56475-65

ACCESSION NR: AP5009399

(2) To find a solution satisfying the condition  $u|_{\Gamma} = 0$ ,  $y^2(\|u/\delta y\|) \rightarrow 0$  as  $y \rightarrow 0$ .

The following scalar product is defined:

$$(u, v) = \int_{\Omega} \{uv + (u_x v_x + (y^{2p} u_y)(y^{2p} v_y)) + (u_{xx} v_{xx} + 2(y^{2p} u_{xy})(y^{2p} v_{xy}) + (y^{2p} u_y)_y (y^{2p} v_y)_y)\} dx dy.$$

The norm of  $u$  on the space  $W_{1,0}^{2,p}$  is

$$\|u\|_{W_{1,0}^{2,p}} = \left\{ \int_{\Omega} (u^2 + (u_x^2 + y^{2p} u_y^2) + (u_{xx}^2 + 2y^{2p} (u_{xy})^2 + (y^{2p} u_y)_y^2)) dx dy \right\}^{1/2}.$$

The function  $u \in W_{1,0}^{2,p}$  is a generalized solution of (1) if a sequence of functions  $\{u_n \in M\}$  can be found such that when  $n \rightarrow \infty$ ,  $\|u - u_n\|_{W_{1,0}^{2,p}} \rightarrow 0$ , where  $u_n$  is a solution of

$$\left\{ -\frac{\partial}{\partial x} \left( p \frac{\partial u_n}{\partial x} \right) - \frac{\partial}{\partial y} \left[ y^{2p} g \frac{\partial u_n}{\partial y} \right] = G_n \right\}.$$

Card 2/3

L 55475-055

ACCESSION NR: AP5009399

Using the method of extension along a parameter, it can be shown that the generalized solution  $u$  exists uniquely and that the following holds:

$$\|u\|_{W_{1,2}} \leq C \|f\|_{L_2}$$

The discovery of approximate solutions for the above boundary value problems reduces to the problem of finding the function  $u_0$  for which the following integral is a minimum:

$$P(u) = \iint_S [p(u_x)^2 + q(u_y)^2] dx dy - 2 \iint_S f u dx dy$$

Orig. art. has: 43 formulas.

ASSOCIATION: none

SUBMITTED: 29Jul64

ENCL: 00

SUB CODE: MA

NO REF SOV: 003

OTHER: 001

Card 3/3

GUSMANOV, G.

Work of a rural district hospital. Zdrav. Turk 2 no.6:39-41  
N-D '58. (MIRA 16:3)

1. Glavnyy vrach uchastkovoy bol'nitsy sel'skogo soveta ~~Glav-~~  
Yab Tashauzskoy oblasti.  
(HOSPITALS, RURAL)

GUSNIN, S.I., dots., kand. tekhn. nauk.

Computation of earthwork volumes by means of special signs without  
pegging out the net of squares. Trudy MIIGAIK no.27:79-84 '57.

(MIRA 11:1)

1. Kafedra geodezii Moskovskogo instituta inzhenerov geodezii, aero-  
fotos"yemki i kartografii.

(Earthwork)

(Surveying)

GOSNIN, S.I.

3(2) PAPER I BOOK REPRODUCTION 30W/2152

Moscow. Institut imennoy gosodstvennoy kartografii  
Trudy, vyp. 33 (Transactions of the Moscow Institute of Engineering  
Geodesy, Aerial Photography, and Cartography, No. 33) Moscow.  
Reedership, 1958. 123 p., 1,000 copies printed.

Editorial Board: A.I. Maslitskiy (Resp. Ed.), V.I. Avdeyev (Deputy  
Resp. Ed.), O.V. Bagratuni, M.Ye. Bobir, I.M. Volkov, A.I. Durnev,  
S.V. Seleznev, P.S. Zakharov, O.P. Lavchenko, M.I. Modirinskiy,  
M.D. Seleznev, S.V. Perlov, and P.P. Shokhin. Ed. of Publishing  
House: A.I. Maslitskiy. Tech. Ed.: V.V. Komarova.

FOREWORD: This issue of the Institute's Transactions is intended for  
geodesists, photogrammetrists, and cartographers.

CONTENTS: This collection of articles covers a variety of problems and  
questions of interest to personnel in the mapping field. Several  
instruments employed in cartography are investigated and evaluated.  
These include a photostereograph, the Photo Reductor M100A1, and

Transactions of the Moscow Institute (Cont.) 30W/2152

marine chronometers. Other subjects treated include Stokes'  
formula, correction of instrumental errors, Dallen's Method, relief  
generalization, aerial camera orientation, and others. Reference  
accompanying individual articles.

Gosnina, S.I. Conversion of Relief (to Graphic) by the Method  
of Graphical Projection 41

Bludman, I.M. The Use of a Correlation Ellipse as a Charac-  
teristic Curve for a Series of Geodetic Measurements 49

Zakharov, S.P. Constructing Conical Sections by Means of  
a Central Projection 55

Zisman, Ya.L. Automation of the Azimuthal Orientation of an  
Aerial Camera 59

Kamov, A.V. Some Problems in Mapping Economics 63

Gorbunov, V.A., and K.I. Sibiryak. Evaluation of the Photo  
Reductor M100A1 71

Medvedev, V.M. A New Method of Instrumental Approach to  
an Aerial Survey Flight Line 79

Gurayevich, V.A. Testing and Evaluation of the Marine Chrono-  
meters Manufactured by the State Clock Factory IM. Kirova 93

Gurayevich, V.A. Some Problems in Evaluating the Accuracy  
of Series of Measurements of Equal Precision 99

Prokhorov, G.I. A Method of Establishing Micro-triangula-  
tion for Detailed Construction (Building) Maps 113

Maslitskiy, Ye.P. Comments to (on) Critical Observations  
of Docent A.A. Girsberg 121

Girsberg, M.A. Comments on Ye.P. Maslitskiy's Letter 123

AVAILABLE: Library of Congress

Card 4/4

12  
8-13-59

GUSNIN, S.I., dots., kand. tekhn.nauk

Field method of planning relief transformations. Trudy MIIGAIX  
no.33:41-47 '58. (MIRA 12:8)

1.Kafedra geodezii Moskovskogo instituta inzhenerov geodezii,  
aerofotos"yemki i kartografii.  
(Surveying)



USSR / Farm Animals. Cattle.

Q-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54728.

Author : Guseynov, S. I., Gusniyev, M. A.

Inst : Not given.

Title : The Histological Structure of the Muscle Fibers  
of the Mountain Cattle of Dagestan.

Orig Pub: Tr. In-ta, zhivotnovodstva. Dagest. fil. AN SSSR,  
1956, 4, 64-67.

Abstract: The average diameter of the muscle fibers of the  
mountain cattle of Dagestan was found to be  
40.64  $\mu$ .

Card 1/1

GUSNIYEV, M.A.; FEDORCHENKO, I.V.

Three-way mercury manometer with a recording lever. Fiziol.  
zhur. 45 no.8:1032-1033 Ag '59. (MIRA 12:11)

1. From the department of physiology, Dagestan Medical Institute,  
Makhatchkala.

(MANOMETRY, equipment & supplies)

MUSALOV, G.G.; GUSNIYEV, M.A.

"Manual for independent practical work in a course of normal physiology." Reviewed by G.G.Musalov, M.A.Gusniev. Fiziol. zhur. 46 no.12:1516-1517 D '60. (MIRA 14:1)

1. Dagestanskiy meditsinskiy institut, Makhachkala.  
(PHYSIOLOGY—STUDY AND TEACHING);  
(MUSALOV, G.G.) (GUSNIYEV, M.A.)

GUSNIYEV, M.A.; MUSALOV, G.G.; KIRIAKIDI, L.M.

Kymograph with the time register. Lab. delo 7 no.12:43-44, D '61.  
(MIRA 14:11)

1. Dagestanskiy meditsinskiy institut, Makhachkala.  
(KYMGRAPH)

GUSNIYEV, M.A.; MUSALOV, G.G.; KIRIAKIDI, L.M.

Three-way mercury dynamograph. Fiziol. zhur. 47 no.12:1505-1507 D  
'61. (MIRA 15:1)

1. From the Department of Physiology, Dagestan Medical Institute,  
Makhatchkala.

(MANOMETER)

ZAYDIYEVA, Z.N.; GUSNIYEVA, Sh.A.

Immediate and late results of using obstetric forceps in delivery.  
Vop. okh. mat. i det. 8 no.7:89 J1 '63. (MIRA 17 2)

1. Iz kafedry akusherstva i ginekologii Dagestanskogo meditsinskogo instituta.

SOV/136-58-12-19/22

AUTHORS: Gusov, A.V. and Kaydak, A.M.

TITLE: Boiling-layer Roasting (K voprosu ob obzhige v kipyashchem sloye)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 12, pp 83 - 84 (USSR)

ABSTRACT: The authors of this letter to the editor severely criticise the article by G.M. Gusev and Ya.N. Shvartsman published in "Tsvetnyye Metally", 1958, Nr 4. They consider that those authors were incorrect in deducing that particle distribution occurs by laws other than those which hold for highly turbulent liquids. The widely-held view that such laws apply has been confirmed by special experiments on particle motion in a boiling-layer. G.M. Shteyngart (Ref 2) has shown that de-sulphurisation occurs throughout the whole volume of the fluidised bed and Gusev and Shvartsman have misinterpreted the gas-sampling investigation carried out at the "Elektrotsink" Works and used defective equipment for their own tests. Although the authors of the criticised article were present at the works during trials of a method of charging the concentrate deep into the bed and know of its defects, they continue to recommend it; their advocacy of charging by injection

Card 1/2

Boiling-layer      Roasting

SOV/136-58-12-19/22

over the layer contradicts their own views. The authors maintain that Gusev and Shvartsman gave a confusing answer to a question of Burov on temperature distribution and cite experimental evidence to show that a deeper bed is advantageous. Among other points criticised are the following: recommendation of a complicated discharge system when the available simple one is satisfactory; the statement that  $SO_2$  concentrations in gas from fluidised beds of over 7-8.5% could not be attained and that processes occurring above the bed were ignored at the "Elektrotsink" Works. There are 2 Soviet references.

ASSOCIATION:      Zavod "Elektrotsink" ("Elektrotsink" Works)

Card 2/2



ALEKSEYEV, B.D.; ALAVERDOV, A.I.; BABIN, I.D.; BIDNEV, A.I.; BUKHOV, I.A.;  
GUSOV, A.V.; IVANOV, V.I.; KAYDAK, A.M.; LEYZEROVICH, G.Ya.; KUPPUL',  
V.K.; SEREBRYANNIKOV, E.Ya.; SHTYINGARDT, G.M.

Roasting zinc concentrate in a gas fired boiling fuel bed. Prom.  
energ. 13 no.8:19-20 Ag '58. (MIRA 11:10)  
(Zinc--Metallurgy)

24

CA GUSOV, S.G.

The danger of fire from the valves of oxygen cylinders.  
V. S. Chernykh and S. G. Gusev, *Intelligence Data* 1947,  
No. 1, 17-21; *Chem. Zvesti.* (Russian Zone Ed.) 1948, II,  
1220. —Packing of fiber, elastite, etc., should be of very  
pure materials and is best replaced by plastic material.

The internal parts of the valve should be of nonferrous  
metal. M. G. Moore

GUSOV, S.G.; SPEKTOR, O.Sh.

Remarks on the review of K.K. Khrenov, M.M. Bort and  
A.D. Kotvitskii's article entitled "Low-pressure oxygen cutting  
of large thicknesses." Svar. proizv. no.4:29-30 Ap '57.

(MLRA 10:5)

(Gas welding and cutting)

(Khrenov, K.K.) (Bort, M.M.) (Kotvitskii, A.D.)

GUSOVSKIY, A., master proizvodstvennogo obucheniya

We are developing technical intelligence. Prof.-tekh. obr. 22  
no. 1:23-24 Ja '65. (MIRA 18:4)

1. Professional'no-tekhnicheskoye uchilishche No.2, Khar'kov.

GUSOVSKIY, A., referent

Equipment for the continuous casting of steel. Metallurg  
8 no.2:22-24 F '63. (MIRA 16:2)  
(Germany, West--Continuous casting)

GUSOVSKIY, A.

Improve the operation of superhigh capacity blast furnace  
Metallurg 8 no.10:12-13 0 '63. (MIRA 16:12)

GUSOVSKIY, A.A.; GONCHAROVA, L.A., red.izd-va; OBUKHOVSKAYA, G.P.,  
tekhn. red.

[Pelletizing of iron ores] Okuskovanie zheleznykh rud.  
Moskva, Metallurgizdat, 1963. 60 p. (MIRA 16:5)  
(Iron ores) (Sintering)

KIRSANOV, I.P.; ORLOVSKIY, Ye.A.; GUSOVSKIY, A.A.; KIRSANOV, I.P.;  
PARTSEVSKIY, A.B.

From science and technology in foreign countries; abstracts.  
Ogneupory 28 no.7:333-335 '63. (MIRA 16:9)



ARUTYUNOV, N.B., inzh., red.; VOSKOBOYNIKOV, V.G., doktor tekhn. nauk, red.; GOTLIB, A.D., prof., doktor tekhn.nauk, red.; GUSOVSKIY, A.A., inzh., red.; KRASAVTSEV, N.I., kand. tekhn. nauk, red.; NEKRASOV, Z.I., akademik, red.; OSTROUKHOV, M.Ya., kand. tekhn. nauk, red.; POKHVISNEV, A.N., prof., doktor tekhn.nauk, red.; RAMM, A.N., prof., doktor tekhn. nauk, red.; TSYLEV, L.M., prof., doktor tekhn. nauk, red.; POZDNYAKOV, G.L., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Blast furnace process according to most recent developments; on the 100th. anniversary of Academician M.A.Pavlov's birth] Domennyi protsess po noveishim issledovaniyam; k 100-letiu so dnia rozhdeniia akad. M.A.Pavlova. Moskva, Metallurgizdat, 1963. 325 p. (MIRA 16:8)

1. AN Ukr.SSR (for Nekrasov).  
(Blast furnaces)  
(Pavlov, Mikhail Aleksandrovich, 1863-1958)

GURDOVSKIY, V.L.; IVANOVA, N.I. IZVESTIYA, A.P., 1964, 11, 17-21

Injection burners of the State All-Union Design and Planning  
Institute of the Ministry of Ferrous Metallurgy. Gas, press.  
9 no.11:17-21 '64. (MIRA 17:12)

S/276/63/000/002/020/052  
AO52/A126

AUTHORS: Gusovskiy, V.L., Ivanova, N.I., and Lifshits, A.Ye.

TITLE: Stal'proyekt standard injection burners

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no.2, 1963, 66-67, abstract 2B310 (Sb. tr. Gos. soyuzn. in-t po proyektir. agregatov staleliteyn. i prokatn. proiz-va chern. metallurgii, no. 2, 1962, 78-87)

TEXT: It is reported on the revision carried out by Stal'proyekt in 1960-1961 of specifications of standard injection burners employed in hardening furnaces and other heating units. As a result of the revision all injection burner designs were reduced to 3 standard series II, B and H (P, V, and N). A table of design dimensions of P, V and N-type burners is presented as well as diagrams of their efficiency and rated operational conditions of standard burners. There are 4 figures.

T. Kislyakova

(Abstracter's note: Complete translation.)

Card 1/1

GUSOVSKIY, V.L.; LIFSHITS, A.Ye.; TYMCHAK, V.M.

Review of the book "Continuous heating furnaces." Stal' 24  
no.12:1144 D '64. (MIRA 18:2)

1. Gosudarstvennyy soyuznyy institut po proyektirovaniyu agregatov  
staleliteynogo i prokatnogo proizvodstva dlya chernoy metallurgii.

GUSOVSKIY, V.L.; LIFSHITS, A.Ye.; TYMCHAK, V.M.

Combustion of natural gas. Book by A.V. Arseyev; review. Stal'  
25 no.4:373 Ap '65. (MIRA 18:11)

GUSOVSKIY, Ya.M.

Pathomorphological changes in the brain in tumors in the region of the third ventricle. Zhur.nevr.i psikh. 59 no.9:1049-1056 '59.

(MIRA 12:11)

1. Patogistologicheskaya laboratoriya (zav. Ya.M. Gusovskiy) Ukrain-skogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir. M.D. Burova) i patologistologicheskaya laboratoriya (zav. - prof. B.S. Khominskiy) Instituta neyrolhirurgii (dir. - prof. A.I. Arutyunov) Ministerstva zdavookhraneniya USSR, Kiev.

(CEREBRAL VENTRICLES neoplasms)

(BRAIN pathol.)

GUSOVSKIY, Ya. M., Cand Med Sci -- (diss) "Patnomorphological changes in the brain during tumors of the area of the third ventricle." Chernovtsy, 1960. 16 pp; (Chernovtsy State Medical Inst); 200 copies; price not given; (KL, 21-60, 129)

KHVUL', G.M. [Khvul', H.M.]; GUSOVSKIY, Ya.M. [Husovs'kyi, I.A.M.]; VENDT, V.P.

Influence of large doses of various preparations of vitamin D on  
the rise of hypervitaminosis under experimental conditions. Ped.,  
akush. i gin. 22 no.4:30-33 '60. (MIRA 14:5)

1. Ukrains'kiy naukovo-goslidniy institut OKhMD im. Geroya Radyans'-  
kogo Soyuzu prof. P.M.Buyka (direktor - zasluzh.likar URSR M.D.  
Burova) ta Institut biokhimii AN URSR (direktor - akad.O.V.Palladin).  
(HYPERVITAMINOSIS) (VITAMINS--D)



KHVUL', A. M.; GUSOVSKIY, Ya. M.; VENDT, V. P.

Development of hypervitaminosis D after administration of synthetic  
vitamin D preparations. *Pediatrics* no. 11: 34-39 '61.  
(MIRA 14:12)

1. Iz Ykrainskogo nauchno-issledovatel'skogo instituta okhrany  
materinstva i detstva imeni Geroya Sovetskogo Soyuza prof. P. M.  
Buyko (dir. kandidat meditsinskikh nauk A. G. Pap)

(VITAMINS—D) (HYPERVITAMINOSIS)

STEPANKOVSKAYA, G.K. [Stepankovs'ka, H.K.], kand.med.nauk; GUSOVSKIY, Ya.M.  
[Husovs'kyi, IA.M.], nauchnyy sotrudnik

Some causes of injuries to the cervix uteri during labor. Ped.,  
akush. i gin. 22 no.5:47-49 '60. (MIRA 15:6)

1. Akusherskiy otdel (zav. - prof. S.P. Vinogradova [Vynohradova, S.P.]) i ~~patogistologicheskaya~~ **patogistologicheskaya** laboratoriya (zav. - nauchnyy sotrudnik Ya.M. Gusovskiy [Husovs'kyi, IA.M.], konsul'tant - prof. N.O. Maksimovich [Maksymovych, N.O.] Ukrainского nauchno-issledovatel'skogo instituta okhrany materinstva i detstva im. Geroya Sovetskogo Soyuza prof. P.M. Buyka (direktor - zasluzhennyy vrach M.D. Burova, nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR prof. A.P. Nikolayev).

(LABOR, COMPLICATED)  
(UTERUS—WOUNDS AND INJURIES)

GUSPAN, Jan, inz. CSc.

Results of the research on improvement of heavy soils in Hungary.  
Vest ust zemadel 12 no.4:156-58 '65.

1. Research Institute of Land Improvement, Worksite Bratislava.

GUSPAN, Jan, inz.

Activities of the Plant Production Research Institute in  
Piestany. Vestnik vyzk zemedel 9 no.9:457-459 '62.

1. Riaditel Vyskumneho ustavu rastlinnej vyroby, Piestany.

GUSPAN, Jan, inz.; RAVAS, Jan

Result of the research on sowing some main crops on fields  
used for forage plant cultivation for several years. Rost  
vyroba 9 no.3/4:391-398 Mr-Ap '63.

1. Vyzkumny ustav rastlinnej vyroby, Piestany.

ЮСС, Р. Ю.

21009 ЮСС, Р. Ю. После районирования (в охотничьих хозяйствах  
семеноводства вики) селекция и семеноводство, 1949, № 7,  
с. 56-59.

50: Letopis' zhurnal'nykh Statey, no. 29, Moskva, 1949

L 00896-67 EWT(d)/EWT(m)/EWP(f)/T-2 WE

ACC NR: AP6014350

(A)

SOURCE CODE: UR/0113/65/000/012/0003/0005

38  
57  
B

AUTHOR: Gussak, L. A. (Candidate of technical sciences); Gussak, D. A.

ORG: Institute of Chemical Physics AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: New design for a precombustion engine 7)

SOURCE: Avtomobil'naya promyshlennost', no. 12, 1965, 3-5

TOPIC TAGS: internal combustion engine, engine ignition system, combustion chamber

ABSTRACT: In view of the problems involved in application of present designs of pre-ignition systems to small engines, a new design is proposed which eliminates the pre-combustion valve and its actuating mechanism. A diagram of the engine is shown in the figure (card 2). The precombustion chamber 1 is formed by the projection on the piston 2 as it approaches TDC. The temporarily disconnected precombustion chamber is connected to the main combustion chamber by short bypass valves drilled through the projection on the piston. The composition of the working mixture is unevenly distributed through the combustion chamber by introducing the working charge in layers. Pure air is drawn into the cylinder during intake through air line with butterfly valve 3 and the cylinder intake valve. A rich fuel mixture is introduced at the same time through the same valve from carburetor 4 along channel 5 which is located close to the open precombustion chamber. The air is mixed with the fuel and vaporized to form the ex-

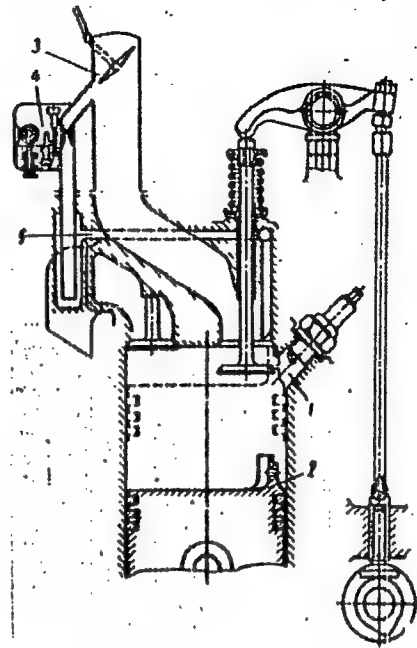
Card 1/3

UDC: 621.431.73.001.5

L 00896-67

ACC NR: AP6014350

plosive mixture. Engine power is regulated depending on the load by varying the quantity of air and fuel introduced into the cylinder. This is done by regulation of the butterfly valve which controls both the air line and the carburetor. The combustion process and operating cycle of the engine were studied in detail at the Institute of Chemical Physics AN SSSR on a single-cylinder CFR engine at various crankshaft speeds and degrees of compression and with various cubic contents for the precombustion chamber, cross sections for the bypass valves and forms of the main combustion chamber. The results show that spark ignition is normal as well as flame front formation and propagation. The combustion process in the main combustion chamber is effective and stable. The engine operates without knocking when the butterfly valve is wide open under conditions of maximum torque on B-70 gasoline in mixtures close to the theoretical composition at optimum ignition advance angles approximately 10 units below those for spark ignition. The engine has 15% more power than carburetor precombustion engines



Card 2/3



L 00896-67

ACC NR: AP6014350

with permanently disconnected precombustion chamber. Orig art. has: 5 figures. 0

SUB CODE: 21, 13/ SUBM DATE: none

awm

Card 3/3

L 18824-63

EPR/EPF(c)/EWT(m)/BDS

AFFTC/RPL

Ps-4/Pr-4

WW/JW

ACCESSION NR: AP3001510

S/0025/63/000/004/0064/0064

AUTHOR: Gussak, L., Candidate of Technical Sciences, Senior Scientific  
Collaborator, Academy of Sciences SSSR

TITLE: Antechamber combustion  
1/11 #3C

SOURCE: Nauka i zhizn', no. 4, 1963, 64

TOPIC TAGS: chemically active product, incomplete combustion, chemical lighter,  
free radical, cancerogenic substance, carcinogen, combustion

ABSTRACT: The author has formulated a new principle of ignition and combustion: the working mixture is ignited, not by a flame, but by a flare of chemically active products of the incomplete combustion of an auxiliary mixture. To keep the mixture from burning up entirely, it is deprived of half the oxygen. Then the atoms rush out of the antechamber in an extremely excited state and impart all their energy to the molecules of the main portion of the fuel. Each of the free radicals and atoms becomes a "chemical lighter." Ignition does not proceed along a front, but at once in a multitude of foci scattered throughout the volume, and becomes more stable. The new method has been successfully applied to gasoline engines turned out by the Gorky Automobile Factory. As compared with the conventional spark-

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L 18824-63

ACCESSION NR: AP3001510

ignition motors, it has the following advantages: The combustion rate is increased 3-4 times, which permits one to lower the octane rating by 10 units or raise the degree of compression. Fuel consumption is reduced by 15%. The specific capacity of the engine is increased more than 10%. Underburning is eliminated and no poisonous products of incomplete combustion are discharged into the air. The exhaust gases contain 15-20 times less cancerogenic substances. Orig. has a very good photograph-like diagram with tridimensional effect.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the Academy of Sciences SSSR)

SUBMITTED: 00

DATE ACQ: 10Jun63

ENCL: 00

SUB CODE: FL

NO REF SOV: 000

OTHER: 000

Card / 2/2

GUSSAK, L.A., kand.tekh.nauk

Exhaust gases can be rendered harmless; new method of precombustion chamber-torch ignition. Priroda 53 no.3:82-86 '64. (MIRA 17:4)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

ZHABOTINSKIY, A.M.; MALENKOV, A.G.; YASHINOV, H.M.; GUSAK, L.A.; SHAPAL, L.M.

Content of cancerogenic and toxic combustion products in exhaust  
gases of combustion engines with spark and antichamber-terch  
ignition. Izv. AN SSSR. Ser. biol. no.6:908-912 N-D '64.

(MIRA 17:11)

1. Institute of Chemical Physics, U.S.S.R. Academy of Sciences  
and Institute of Experimental and Clinical Oncology, U.S.S.R.  
Academy of Medical Sciences.

L 00896-67 EWT(d)/EWT(m)/EAF(f)/T-2 WE

ACC NR: AP6014350

(A)

SOURCE CODE: UR/0113/65/000/012/0003/0005

AUTHOR: Gussak, L. A. (Candidate of technical sciences); Gussak, D. A.

ORG: Institute of Chemical Physics AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: New design for a precombustion engine 21

SOURCE: Avtomobil'naya promyshlennost', no. 12, 1965, 3-5

TOPIC TAGS: internal combustion engine, engine ignition system, combustion chamber

ABSTRACT: In view of the problems involved in application of present designs of pre-ignition systems to small engines, a new design is proposed which eliminates the pre-combustion valve and its actuating mechanism. A diagram of the engine is shown in the figure (card 2). The precombustion chamber 1 is formed by the projection on the piston 2 as it approaches TDC. The temporarily disconnected precombustion chamber is connected to the main combustion chamber by short bypass valves drilled through the projection on the piston. The composition of the working mixture is unevenly distributed through the combustion chamber by introducing the working charge in layers. Pure air is drawn into the cylinder during intake through air line with butterfly valve 3 and the cylinder intake valve. A rich fuel mixture is introduced at the same time through the same valve from carburetor 4 along channel 5 which is located close to the open precombustion chamber. The air is mixed with the fuel and vaporized to form the ex-

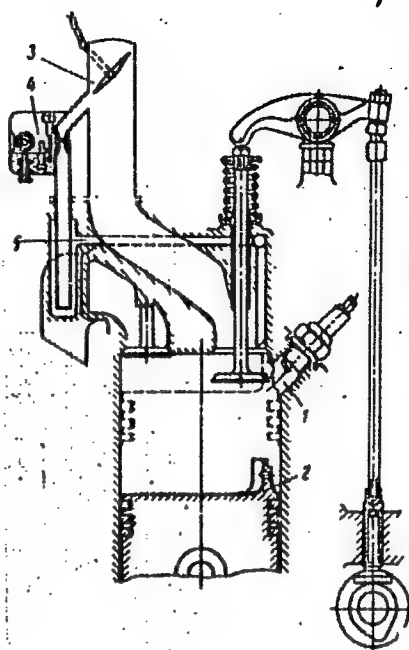
Curd 1/3

UDC: 621.431.73.001.5

L 00896-67

ACC NR: AP6014350

plosive mixture. Engine power is regulated depending on the load by varying the quantity of air and fuel introduced into the cylinder. This is done by regulation of the butterfly valve which controls both the air line and the carburetor. The combustion process and operating cycle of the engine were studied in detail at the Institute of Chemical Physics AN SSSR on a single-cylinder CFR engine at various crankshaft speeds and degrees of compression and with various cubic contents for the precombustion chamber, cross sections for the bypass valves and forms of the main combustion chamber. The results show that spark ignition is normal as well as flame front formation and propagation. The combustion process in the main combustion chamber is effective and stable. The engine operates without knocking when the butterfly valve is wide open under conditions of maximum torque on B-70 gasoline in mixtures close to the theoretical composition at optimum ignition advance angles approximately 10 units below those for spark ignition. The engine has 15% more power than carburetor precombustion engines



Card 2/3

L 00896-67

ACC NR: AP6014350

with permanently disconnected precombustion chamber. Orig art. has: 5 figures. 0

SUB CODE: 21, 13/ SUBM DATE: none

awm

Card 3/3



L 65048-65: ENT(m)/EFF(c)/T/EWA(c) WE'

ACCESSION NR: AP5021897

UR/0281/65/000/004/6098/0110  
621.43.04.056.536.461

AUTHOR: Gussak, L. A. (Moscow)

TITLE: New ignition and combustion principle for [automotive] engines

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 4, 1965, 98-110

TOPIC TAGS: piston engine, gasoline engine, internal combustion engine, engine combustion system, engine fuel system, engine performance characteristic, turbulent combustion, fuel carburetor, combustion initiation, internal combustion engine component

ABSTRACT: The article reviews the shortcomings of internal-combustion engines, as related to combustion-process characteristics. Precombustion-chamber flame ignition with turbulent combustion is described as a new principle, and data are presented showing the improvement in engineering, economic, and operating indices as a result of its application. Extensive research and development by the Institute of Chemical Physics of the Academy of Sciences USSR and the Gor'kiy Automobile Plant has led to the production and testing of GAZ-51F (GAZ-52), GAZ-21F, and ZIL-120FK engines in trucks and passenger cars. The author concludes that the use of the new principle

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L 65048-65

ACCESSION NR: AP5021897

results in a lower octane number (by 10) being required, a decrease of more than 10% in average fuel consumption, and the almost total elimination of toxic exhaust gases in automotive engines. A cross-sectional view of a design for an engine of this type is included in the article. Orig. art. has: 10 figures and 2 formulas. [LB]

ASSOCIATION: none

SUBMITTED: 17Mar65

ENCL: 00

SUB CODE: FR

NO REF SOV: 007

OTHER: 001

ADD PRESS: 408P

Card *dm*  
2/2

V. B. GUSSAK

Factors and internal consequences of surface wash of the  
red earth under condition of the humid subtropics of  
Georgia, Caucasus. V. B. Gussak. Dokl. Akad. Nauk S.  
S. S. R., Doklady Inst. Dokuchayev, *Geop. Pochv.*  
Soil Erosion, Dokuchayev Soil Inst., 1937, Vol. 51.  
Some chem. data are presented on the red soils with refer-  
ence to erosion. Humus, N and available P in the eroded  
and noneroded areas are recorded. I. S. Ioffe.

ASB 56.6 DETAIL OF LITERATURE CLASSIFICATION

GUSSAK, V. B.

USSR

V.V. Dokuchayeva Soil Inst., Moscow (-1946-)

"A device for a rapid determination of the erodibility of soils and some results of its application"

Pochvovedeniye, No. 8, 1946.

PA 36/40T108

GUSSAK, V. B.

Jul 48

USSR/Soil Science  
Erosion

"Some Observations on Soil Erosion in the Border  
Layer With the Aid of Micro-Cino-Surveying,"  
V. B. Gussak, 5 pp

"Pochvovedeniye" No 7

Sand and dust particles play important role in  
soil erosion. Determines that under conditions  
of turbulent movement of the boundary layer there  
is none of the laminar movement described by  
Landau. States that winds with speeds of 19 cm  
per sec displace sand particles of 1-mm diameter  
or less at the rate of 3 - 15 mm per sec.

36/49T108

GUSSAK, V. B.

23975

GUSSAK, V. B. Opyt issledovaniya protsessa erozii pochvy na modelyakh.  
Problemy sov. Pochvovedeniya, SB. 15, 1949, S. 211-19 -- Bibliogr: S.  
218-19.

SO: Letopis, No. 32, 1949.

*not available*

BC

PROCESSING AND PROPERTY INDEX

8-3-1

Influence of ley farming on some properties of sub-arctic soils of the Moscow region. V. B. Givsh, V. N. Timon, and N. A. Pankova (Pochvovedenie, 1966, 766-784; Soils & Fertil., 1967, 24, 128).—Laboratory measurements on erodibility and soil structure showed that greatest structural stability and resistance to erosion are found in loams covered by thinnest forest with a grass ground sum. Steads and chaps showed greater erodibility. The best crop for reducing erodibility is a mixture of clover and timothy. The effects of this treatment wear off rapidly when the ley is ploughed up. C. B. Moore.

DETAILS OF LITERATURE CLASSIFICATION

GUSSAK, V.B.

Scientific translations published by "Inostrannaia literatura" and  
about scientific translations in general. Pochvovedenie no.12:83-89  
D '56. (MIRA 10:2)

(Translations) (Soils)



USSR/Soils Science. Physical and Chemical Properties of J  
Soils

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58267, By P.Sh.

Author . : Gussak V. B.

Inst : Not given

Title : On the Formation of an Artificial Soil Structure

Orig Pub : Sots. s. kh. Uzbekistana, 1957, No6, 71-73

Abstract : The experimental and productive application of artificial structure-forming substances to the soils in the Central Asiatic cotton belt in addition to the cotton-alfalfa crop rotation has been suggested. Experiments should be conducted, first of all, on gray desert soils which are more abundant in the areas which are marked for irrigation. Several substances now successfully being used in the USA are named.

Card 1/1

GUSSAK, V.B., Doc Agr Sci — (diss) "Soil erosion, means of investigation, and certain problems connected with it." Tashkent, 1959. 41 pp. (Uzbek Acad of Agr Sci, Tashkent Agr Inst). 250 copies. List of author's work at end of text (KL, 39-59, 105)

63

GUSSAK, V.B.; KIMBERG, N.V.; UMAROV, M.U.; MAKHSUDOV, Kh.M.

Some data on the extent of erosion in Uzbekistan, its aftereffects  
and control measures. Uzb.biol.zhur. no.1:73-81 '59.

(MIRA 12:7)

1. Institut pochvovedeniye AN UzSSR.  
(Uzbekistan--Erosion)

GUSSAK, Veniamin Borisovich; NASYROV, Yakh'ya Mirsaidovich;  
SKVORTSOV, Yuriy Aleksandrovich; BOYKO, A.N., red.; SOROKINA,  
Z.I., tekhn. rea.

[Soil formation on loess accumulations of various ages and  
the fertility of Sierozems] Pochvoobrazovanie na lessovykh  
akkumuliatsiiakh raznogo vozrasta i plodorodie serozemov.  
Tashkent, In-t pochvovedeniia, 1961. 159 p. (MIRA 15:7)  
(Uzbekistan—Sierozem soils)  
(Uzbekistan—Loess)